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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/587,640	07/28/2006	Masayoshi Horiuchi	121036-0092	2792
35684	7590	04/17/2008		
BUTZEL LONG				
350 SOUTH MAIN STREET				
SUITE 300				
ANN ARBOR, MI 48104				
EXAMINER				
BUIE, NICOLE M				
ART UNIT		PAPER NUMBER		
4145				
NOTIFICATION DATE		DELIVERY MODE		
04/17/2008		ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patent@butzel.com  
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### Office Action Summary

**Application No.**

10/587,640

**Applicant(s)**

HORIUCHI ET AL.

**Examiner**

NICOLE M. BUIE

**Art Unit**

4145

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SF/86)  
Paper No(s)/Mail Date 20060728
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_

## **DETAILED ACTION**

### ***Claim Objections***

1. Claim 2 is objected to because of the following informalities: the currently amended claim submitted on 02/22/2007 does not show all of the changes from the previous version of the claim submitted on 10/04/2006. The word “and” was last deleted and now it is added. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claim 2 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The instant specification does disclose high pressure homogenizer, but does not disclose the “colloid mill” or “an ultrasonic dispersing apparatus” ([0023],[0025],[0026],[0027]). Additionally, the phrase “the monomer mixture is emulsified and dispersed” is not disclosed in the instant specification ([0023],[0025],[0026],[0027]).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sato et al. (US 5,876,617) in view of Amimoto et al. (US 5,055,538).

Regarding claim 1, Sato et al. discloses a method for producing an acrylic copolymer (Abstract, C2/L8-23), which comprises emulsion polymerizing a monomer mixture of (a) 30-70% by weight of perfluoroalkylalkyl (meth)acrylate (Abstract, C2/L9-16), represented by the

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following general formula:



(where R is a hydrogen atom or a methyl group, R' is a linear or branched alkylene group having 1-8 carbon atoms, and Rf is a perfluoroalkyl group having 4-16 carbon atoms) (Abstract, C2/L9-16), (b) 25-60% by weight of stearyl (meth)acrylate (Abstract, C2/L16-17), and (d) 0.1-5% by weight of N- methylol (meth)acrylamide (Abstract, C2/L8-23) in the presence of a non-ionic and/or cationic surfactant (C3/L9-22) wherein a polypropylene glycol-based compound is used as an emulsification aid (C3/L5-8). Sato et al. discloses not more than 5% by weight of hydroxyalkyl (meth)acrylate (C2/L20-23). However, Sato et al. does not disclose 0.1-5% by weight of (meth)acrylamide.

Amimoto et al. teaches a method for producing an acrylic copolymer (C6/L19-68, Table 4). Amimoto et al. further teaches hydroxyalkyl (meth)acrylate is equivalent to (meth)acrylamide, since both compounds have similar functions, which is to increase water-and oil-repency and durability of the water- and oil-repellent (C3/L27-60, C3/L67-C4/L5). Additionally, Amimoto et al. teaches that the amount of (meth)acrylamide is 0.1-5% by weight (C3/L48-60).

Amimoto et al. and Sato et al. are analogous inventions related to methods for producing an acrylic copolymer. Therefore, it would have been obvious to one of ordinary skill in the art to substitute the (meth)acrylamide for the hydroxyalkyl (meth)acrylate of method of Sato et al., since substitution of equivalent water- and oil-repency agents requires no express motivation, as long as the prior art recognizes equivalency. *In re Fount*, 213 USPQ 532 (CCPA 1982); *In re Siebentritt*, 152 USPQ 618 (CCPA 1967); *Graver Tank & Mfg. Co. Inc. v. Linde Products Co.*, 85 USPQ 328 (USSC 1950).

Regarding claim 2, modified Sato et al. discloses all of the claim limitations as set forth above. Additionally, Sato et al. discloses a method of producing an acrylic copolymer, wherein after the monomer mixture is emulsified and dispersed by an emulsification means using a high pressure homogenizer, the emulsion polymerization is carried out by adding a polymerization initiator thereto (C3/L16-22, C6/L55-C7/L3).

Regarding the method limitations of claims 3 and 5, the examiner notes that even though a product by process is defined by the process steps by which the product is made, determination of patentability is based on the product itself. In re Thorpe, 777 F. 2d 695, 227 USPQ 964 (Fed. Cir. 1985). As the court stated in Thorpe, 777 F. 2d at 697, 227 USPQ at 966 (The patentability of a product does not depend on its method of production. In re Pilkington, 411 F. 2d 1345, 1348, 162 USPQ 145, 147 (CCPA 1969). If the product in a product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process.)

Regarding claims 3 and 5, modified Sato et al. discloses all of the claim limitations as set forth above. Additionally, Sato et al. discloses an emulsion polymerized acrylic copolymer (C3/L9-22, C3/L55-C4/L13).

Regarding claims 4 and 6, modified Sato et al. discloses all of the claim limitations as set forth above. Sato et al. further discloses water and oil repellent, which comprises an emulsion polymerized acrylic copolymer (C3/L33-47).

### ***Conclusion***

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to NICOLE M. BUIE whose telephone number is (571)270-3879. The examiner can normally be reached on Monday-Thursday, 7:30am-5pm, (EST), and Fridays, 7:30am-4pm with alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Basia Ridley can be reached on (571)272-1453. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Gwendolyn Blackwell/  
Primary Examiner, Art Unit 1794

/N. M. B./  
Examiner, Art Unit 4145  
4/15/2008